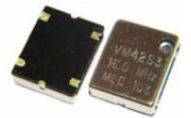


## HCMOS 11.4 x 9.6 x 2.5mm SMD

- SMD package 11.4 x 9.6 x 2.5mm
- Wide frequency range: 1.6MHz to 156MHz
- Close tolerance stabilities from  $\pm 0.5$ ppm over 0° to +50°C
- $\pm 1$ ppm over -40 to +85°C available
- Supply voltage 2.8 Volts to 5.0 Volts



### DESCRIPTION

EM42 series TCXOs are packaged in the industry-standard 11.4 x 9.6 x 4.7mm package. Close tolerances are available from  $\pm 0.5$ ppm over 0° to 50°C or  $\pm 1$ ppm over -40° to +85°C. Supply voltage may be specified over the range 2.8 to 5.0 Volts.

### SPECIFICATION

Product Series Code:	EM42T
Frequency Range:	1.6MHz to 156.0MHz
Output Waveform:	Square wave (HCMOS)
Mechanical Frequency Tuning:	$\pm 3$ ppm
Standard Frequencies:	9.6, 10.0, 12.80, 13.0, 14.40, 15.36, 16.384, 19.200, 19.44 and 19.68MHz. (Partial list)
Operating Temperature Range:	See table
Frequency Stability	
vs. Ageing:	$\pm 1.0$ ppm max. first year
vs. Voltage Change:	$\pm 0.3$ ppm max. $\pm 5\%$ change
vs. Load Change:	$\pm 0.3$ ppm max. $\pm 10\%$ change
vs. Reflow:	$\pm 1$ ppm max. for one reflow (Measured after 24 hours)
Supply Voltage:	+2.8 VDC (Code '28') +3.0 VDC (Code '3') +3.3 VDC (Code '33') +5.0 VDC (Code '5')
Output Voltage Levels	
Logic '1' HIGH:	80% Vdd min.
Logic '0' LOW:	10% Vdd max.
Rise & Fall Times:	10ns max. (20%~80%)
Duty Cycle (Symmetry):	50% $\pm$ 10% (at 50%Vdd)
Start-up Time:	10ms max.
Current Consumption:	30mA max. (Freq. dependent)
Output Load:	15pF
SSB Phase Noise:	See table
Output Format:	AC block, DC coupled
Storage Temperature:	-50° to +100°C

### FREQUENCY STABILITY

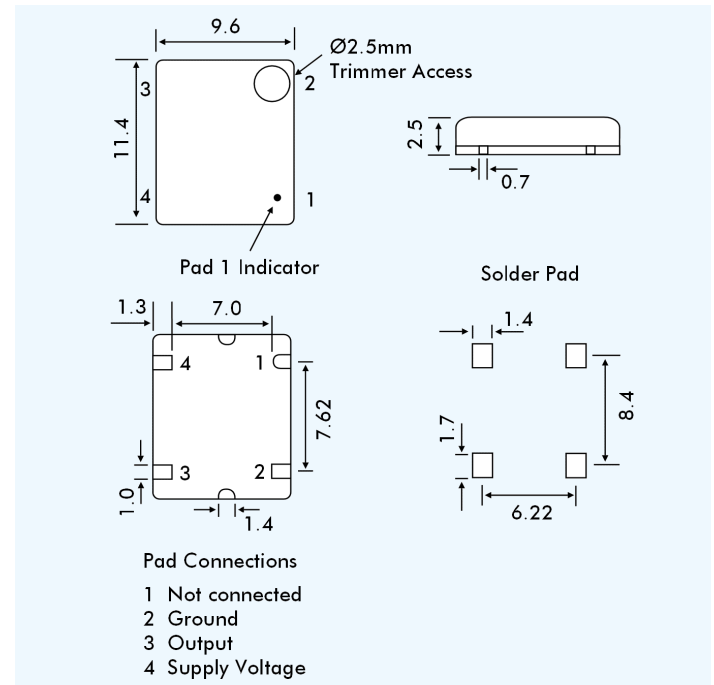
Frequency Stability (ppm)		$\pm 0.5$	$\pm 1.0$	$\pm 1.5$	$\pm 2.0$	$\pm 2.5$
Temperature Range (°C)	0 ~ +50	✓	✓	✓	✓	✓
	-10 ~ +60	ASK	✓	✓	✓	✓
	-20 ~ +70	x	✓	✓	✓	✓
	-30 ~ +75	x	✓	✓	✓	✓
	-40 ~ +85	x	✓	✓	✓	✓

✓ = available, x = not available, ASK = call Technical Sales  
■ = standard specification

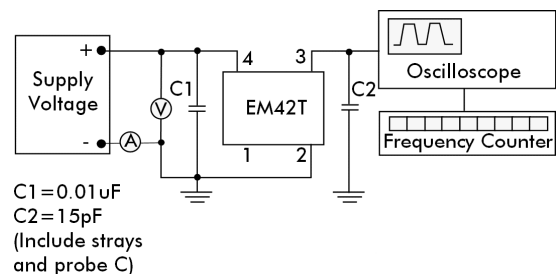
### PHASE NOISE (Example: EM42T at 10.0MHz)

SSB Phase Noise at 25°C	Offset (Hz)	10	100	1k	10k	100k
	EM42T 100MHz (dBc/Hz)		-72	-110	-125	-132

### EM42T - OUTLINES AND DIMENSIONS



### EM42T - TEST CIRCUIT



### EM42T - PART NUMBERING PROCEDURE

